EXHIBIT B

FILED UNDER SEAL

IN THE UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

GOOGLE LLC, Plaintiff v. SONOS, INC., Defendant.	CASE NO. 3:20-cv-06754-WHA Related to CASE NO. 3:21-cv-07559-WHA

REBUTTAL EXPERT REPORT OF SAMRAT BHATTACHARJEE REGARDING NON-INFRINGEMENT OF U.S. PATENT NO. 10,779,033 AND OTHER ISSUES

HIGHLY CONFIDENTIAL AEO AND SOURCE CODE MATERIALS

(ii) Casting A User Playlist To A Cast-Receiver

80. When a user initiates a Cast session to send playback from a mobile device to a playback device, the mobile device causes [redacted].

81. [redacted]

GOOG-SONOSWDTX-00039491.

82. [redacted]

[redacted]

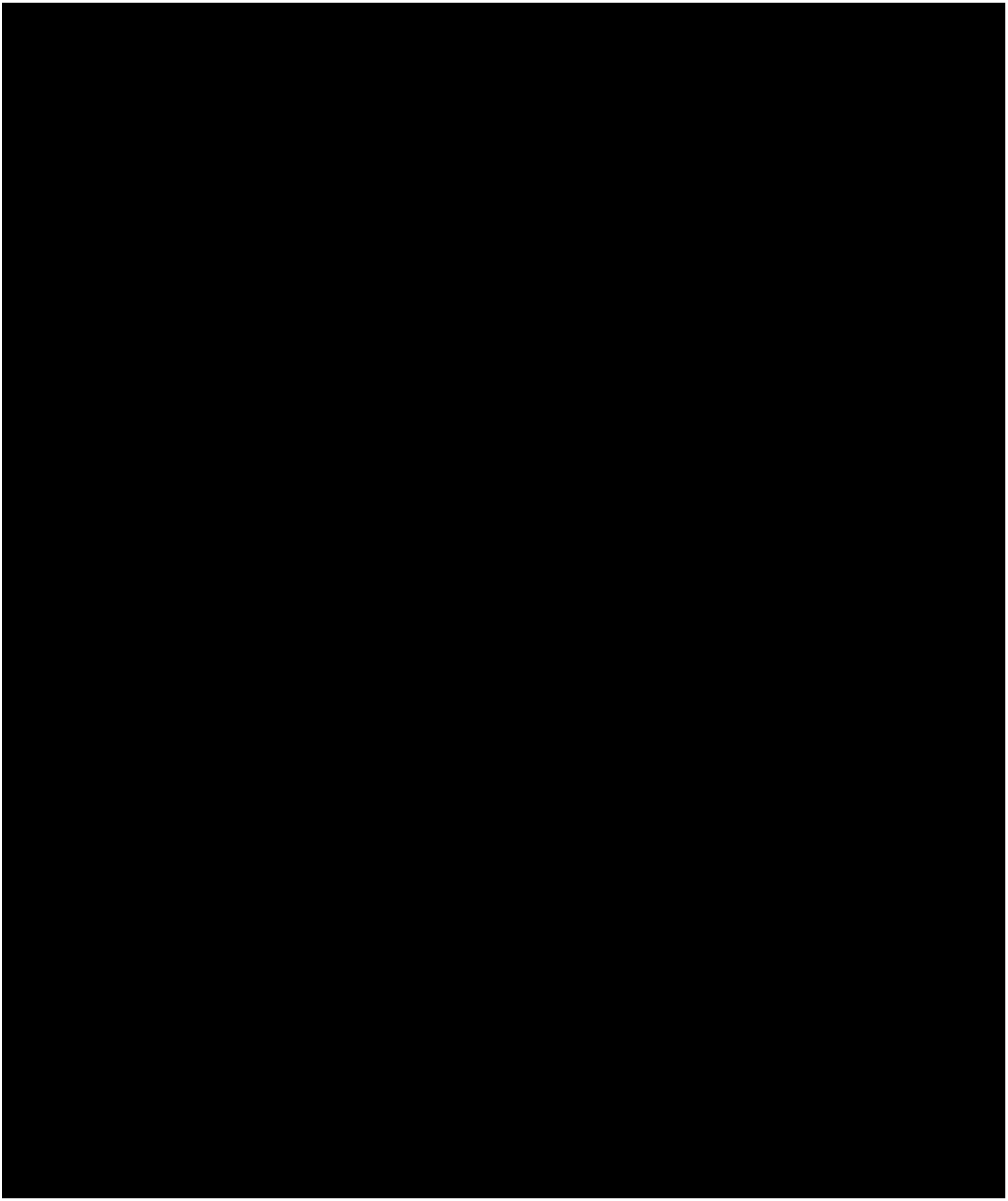
83. [redacted]

[redacted]

[4] [redacted]

84. [redacted]

5 [redacted]



1. YouTube Main On A Hub Device

94. The YouTube Main application on the Hub Device includes a cast icon shown in the image below which has been annotated with a red box to emphasize the Cast icon:

95. Upon selecting the Cast icon, the YouTube Main application on the Hub Device will stop playback of whatever media item is playing locally and will then display available Cast devices on the display. An image of the screen that appears upon selecting the Cast icon is below. The YouTube Main app on the Hub Display is only able to display Cast devices that can play video content, such as another Hub Device or a Chromecast device. Schmidt Rpt., ¶181. For example in the image below the Cast speaker device on the network is not displayed. Put another way, to be able to Cast YouTube Main videos using a Hub Device, a user must own a Hub Device and at least one other Cast device capable of playing videos (e.g., a second Hub Device or a Chromecast).

96. Below are images from my testing of the Hub Devices that shows an example playback scenario. Image 1 shows a mobile device that I used to Cast playback of the video "The Wire | Most Iconic Lines" to a first Nest Hub device on the right ("Nest Hub"). Image 2 shows the Nest Hub playing back the video that is being Cast to it by the mobile device, namely the "The Wire | Most Iconic Lines." Image 3 shows a service recommended video that will play next: "Lester Freamon proves he is not a hump: Classic Wire." Image 4 shows the screen that appears after tapping the Cast icon and shows the other Nest Hubs on the network ("Nest Hub - 2"). As mentioned above, tapping the Cast icon stops playback on the Nest Hub. Image 5 shows that after I tapped the "Nest-Hub -2 icon" on the display the Nest Hub - 2 (on the left) began playback of the video. The set of service recommended videos to be played back on the Nest Hub prior to transfer (image 3) did not match the set of service recommended videos to be played back on the Nest Hub - 2 after transfer (image 6). In fact, in this example the service recommended videos was empty after transfer.

104. [redacted]

[redacted]

GOOG-SONOSNDCA-00115814 ([redacted]) at slide 3.

105. [redacted]

106. [redacted]

GOOG-SONOSNDCA-00115893 [redacted]

[redacted]

107. Each YouTube song or video includes an identifier (called a videoId). A videoId by itself cannot be used to retrieve the media content for a song or video on the [redacted] Instead, the process for obtaining data that can be used to retrieve the multimedia content involves a number of steps. For instance, before an alleged playback device can even make a request for the content of a song or video, it must first make a request to a [redacted] GOOG-SONOSNDCA-00115893 [redacted]).

GOOG-SONOSNDCA-00115814 ( ) at slide 8 .

108. For instance, the uses a videoId, itags and other information-

GOOG-SONOSNDCA-00115893. :

[redacted]

GOOG-SONOSNDCA-00115814 ([redacted]) at slide 9; GOOG-SONOSNDCA-00115893 ([redacted] at 3 ("[redacted]

[redacted].[14]

X. ALLEGED ACTS OF INFRINGEMENT

A. Sonos's Allegations Of Direct Infringement Are Limited To Pixel Devices

109. I note that Dr. Schmidt only accuses the below Pixel Devices of direct infringement, which he states "are (or were) installed with one or more of the YouTube Main or YouTube Music apps." Schmidt Rpt., ¶442. Thus, I understand that for purposes of direct infringement by Google only the Pixel Devices and the YouTube Main and YouTube Music applications are at issue.

[14] [redacted]. GOOG-SONOSNDCA-00115893 ([redacted])

particular "list of media items" that he is accusing of being a "remote playback queue" or alter his source code citations, I reserve the right to respond.

162. **Second**, Limitation 1.4 recites that the "computing device is configured for playback of ***a*** remote playback queue," and Limitation 1.7 requires that a playback device take over playback responsibility of "**the** remote playback queue." Thus, for this limitation Dr. Schmidt must identify the same "remote playback queue" that he does for Limitation 1.7.

163. As I explain in further detail in connection with Limitation 1.7, Dr. Schmidt cannot do so. [redacted] The Shared Queue is created only *after* a Cast session is initiated. Because Limitation 1.4 is directed to playback when not Casting, it cannot involve playback of the Shared Queue. Thus, Dr. Schmidt cannot identify the same alleged "remote playback queue" for Limitations 1.4 and 1.7, as required by the claim language.

(iii) Dr. Schmidt Accuses A Local Queue-Not A Remote Queue-That Is Played Back When Not Casting

164. As I just explained, Dr. Schmidt's vague reference to a [redacted] does not identify any actual queue. In fact, to the extent Dr. Schmidt's report has identified any queue that is played back by a User Device when not Casting, it is a local, rather than a remote, queue. The express language of the claims, however, requires that the User Device be "configured for playback of a *remote* playback queue." A User Device configured for playback of a local queue does not infringe.

165. In particular, I understand Dr. Schmidt to accuse a User Device of being in a "first mode" when it is not Casting to a receiver device, and is instead playing media locally on the sender. Schmidt Rpt., ¶¶122-123. But Dr. Schmidt acknowledges that a User Device (the alleged

back "a remote playback queue" on a User Device prior to Casting, and then transferring playback of "the remote playback queue" to a receiver when Casting. [redacted] Thus, the opinions I offered in connection with the Patent Showdown on the '615 patent are not inconsistent with my opinions here.

3. Hub Devices With The Accused YouTube Applications Do Not Satisfy Limitation 1.4

(A) The Accused YouTube Applications Do Not Play A Playback Queue Provided By A Third-Party Application

186. As I showed above in connection with my discussion of User Devices, the plain meaning of "remote playback queue" in view of the specification refers to a playback queue provided by a third-party application. The YouTube functionality that Sonos accuses on Hub Devices also does not play a playback queue provided by a third-party application. Thus, Dr. Schmidt cannot show that the Hub Devices play back a "remote playback queue."

(B) A Hub Device Is Not In A "Computing Device" In A "First Mode" When A Mobile Device Is Casting To It

187. It is also my opinion that a Hub Device is *not* a "computing device" operating in the claimed "first mode" when a User Device is Casting to the Hub Device.

188. [redacted] Schmidt Rpt., ¶178. However, when performing his claim analysis the only playback scenario Dr. Schmidt discusses is that of a [redacted]

[redacted] To the extent Dr. Schmidt is later permitted to discuss other playback scenarios, I reserve the right to respond.

189. In this use case, Dr. Schmidt opines that a Hub Device is a "computing device" in the "first mode" when a mobile device (e.g., a smartphone) running the YouTube application Casts playback to the Hub Device. This is reflected in his source code citations. In particular, Dr. Schmidt states that the [redacted] Although I agree that a Hub Device is playing back a cloud queue when in a Cast session with a mobile device, I disagree with Dr. Schmidt that a Hub Device is a "computing device" that is configured in the claimed "first mode" in this scenario.

190. In my opinion, a POSITA would understand a Hub Device is *not* a "computing device" in the claimed "first mode" when the mobile device is Casting to the Hub Device. The Hub Device is a Cast receiver device and is acting as a claimed "playback device" in this case.

[18] I note that Dr. Schmidt's reference to a "Cast session with the Hub Sender" is a misnomer. When another devices Casts playback to a Hub Device, the Hub Device is acting as a Hub Receiver. It is not a Hub Sender.

[19] [redacted]

191. **First**, Dr. Schmidt's opinion that a Hub Device is a "computing device" operating in a "first mode" during a Cast session is in tension with the other opinions in his report. For example, for the accused User Devices (e.g., smartphone, tables and computers) Dr. Schmidt opines that the "non-Casting mode of operation" is a "first mode" and that the "Casting Mode of operation" is a "second mode":

> Google's source code confirms that each YouTube Sender is programmed to transition from the claimed "first mode" to the claimed "second mode." *See, e.g.*, Ex. 8, pp. 47-54. In this regard, the following exemplary source code for the Android version of the YouTube Main app demonstrates that a YouTube Sender has the capability to transition from the non-Casting mode to the Casting mode

Schmidt Rpt., ¶370. Thus, Dr. Schmidt has confusingly attempted to characterize the "Casting Mode of operation" as both the required "first mode" and the required "second mode."

192. **Second**, when a mobile device is Casting playback to the Hub Device the mobile device is the "computing device" configured in the "first mode" and the Hub Device is a "playback device" that begins playing after the computing device has transitioned from the "first mode" to the "second mode." In particular, the claim language recites that a "computing device" transfers "responsibility for playback" to "one or more playback devices in a media playback system" that are "available to accept playback responsibility for the remote playback queue" while in the "first mode," and then transitions to a "second mode" where it controls playback on the "playback device." The scenario Dr. Schmidt accuses begins with a user tapping the Cast icon on a computing device (e.g., a smartphone) to display Cast receivers (playback devices) that include a Hub Device. The user then selects the Hub Device (a playback device) to transfer responsibility for playback from the computing device (e.g., a smartphone) to the playback device (the Hub Device). Thus, in this use case a Hub Device is a Cast receiver that plays back media when a

computing device (e.g., a mobile device) transfers playback responsibility to the Hub Device (a playback device) and the system has transitioned out of the "first mode."

193. My opinion is supported by the specification of the '033 patent. The specification does not convey to a person of skill in the art that the inventors were in possession of a device that operated as both a "computing device" for controlling transfer of playback and a "playback device" for receiving playback responsibility at the time of filing. Indeed, such the specification doesn't contemplate that scenario. For example, the '033 patent discloses a computing device, such as Sonos controller or third-party application on a mobile device, that can include a screen for displaying an indication of one or more playback devices for selection and that the control device may receive user input for transferring playback responsibility to a playback device. '033 patent at Fig. 3 (illustrating Sonos controller device with screen), Fig. 5 (illustrating components of a controller device, including "screen" and "input interface"), 12:41-64 (describing scenario in which a third-party application is used to transfer playback to a playback device). The '033 patent separately discloses "playback devices," such as a Sonos zone player, that play back media items but that do not display or receive user input for transferring playback responsibility to another playback device. '033 patent at Figs. 2A-2C (example playback devices), Fig. 4 (showing components of a zone player, which includes no screen or input interface). In short, a person of skill in the art would understand that the '033 patent provides no written description support for Dr. Schmidt's accused use case, or a device that is both the claimed "computing device" and the claimed "playback device."

4. [1.5] while operating in the first mode, displaying a representation of one or more playback devices in a media playback system that are each i) communicatively coupled to the computing device over a data network and ii) available to accept playback responsibility for the remote playback queue;

5. [1.6] while displaying the representation of the one or more playback devices, receiving user input indicating a selection of at least one given playback device from the one or more playback devices

194. In my opinion, Dr. Schmidt has failed to show that a User Device or Hub Device satisfies Limitations 1.5 and 1.6 at least because Dr. Schmidt has failed to show that the accused YouTube applications can operate in a first mode in which the computing device is configured for playback of a remote playback queue provided by a cloud-based computing system associated with a cloud-based media service. *See* Limitation 1.4.

195. The YouTube Main functionality that Sonos accuses on Hub Devices does not satisfy these limitations for the additional reason that the Hub Device does not "display[] a representation" of the alleged playback devices "while operating in the [alleged] first mode." The claims recite that in the "first mode" the "computing device is configured for playback of a remote playback queue." Thus, a Hub Device must display the claimed representation of the alleged playback device while the "computing device is configured for playback of a remote playback queue." The Hub Devices do not. In particular, as I showed in Section IX.B.1, when the Cast icon in the YouTube Main application is selected to display the alleged playback devices, the playback of the media will stop on the Hub Device. A person of skill in the art would understand that a Hub Device that is configured for playback of the alleged remote playback queue is playing back the queue. In contrast, a Hub Device that stops playback on the queue is not configured for playing back the alleged queue.

196. The understanding that a Hub Device is no longer "configured for playback" of the alleged "remote playback queue" when playback on the Hub Device has been stopped is supported by Dr. Schmidt's opinions. For instance, Dr. Schmidt opines in his report that a User Device and Hub Device are "no longer configured for playback" of the alleged "remote playback queue" when it "stops its own playback." *See, e.g.*, Schmidt Rpt., ¶170 [redacted]

[redacted] Dr. Schmidt does not point to any other configuration or de-configuration steps that User Devices and Hub Devices must perform in order to no longer be configured for playback of the alleged remote playback queue. Thus, the YouTube Main functionality that Sonos accuses on Hub Devices causes the Hub Device to "no longer be configured for playback" when displaying playback devices in much the same way that Dr. Schmidt has identified.

6. [1.7] based on receiving the user input, transmitting an instruction for the at least one given playback device to take over responsibility for playback of the remote playback queue from the computing device, wherein the instruction configures the at least one given playback device to (i) communicate with the cloud-based computing system in order to obtain data identifying a next one or more media items that are in the remote playback queue, (ii) use the obtained data to retrieve at least one media item in the remote playback queue from the cloud-based media service; and (iii) play back the retrieved at least one media item;

197. In my opinion, Dr. Schmidt has failed to show that Limitation 1.7 is satisfied by the accused User Devices and Hub Devices for several reasons. Given that there are several subparts to limitation 1.7, I have addressed the different subparts below in different sections.

(A) Dr. Schmidt Has Not Shown A User Device Causes A Playback Device Takes Over Responsibility For Playback Of "The Remote Playback Queue"

198. Initially, Limitation 1.7 again requires a "remote playback queue." As I explained in connection with Limitation 1.4, a POSITA would understand that the plain meaning of "remote playback queue" in view of the specification is a playback queue provided by a third-party

application, and the accused YouTube applications do not play back a queue provided by a third-party application. Thus, Limitation 1.7 is not satisfied for at least this reason.

199. Additionally, even accepting Dr. Schmidt's interpretation of "remote playback queue," Dr. Schmidt's opinion fails because he has not shown that the accused computing devices transfer playback responsibility of "***the*** remote playback queue" that he has accused in Limitation 1.4. In particular, I understand that a claim element in a patent is given antecedent basis, and that each subsequent reference to that same claim element is referred to as "the [element]." In the instant case, Limitation 1.4 recites that the "computing device is configured for playback of ***a*** remote playback queue," and this limitation then further requires that a playback device take over responsibility for playback of "***the*** remote playback queue." To be clear, I do not dispute that the [redacted]. However, that does not eliminate the requirement that Dr. Schmidt point to the same "remote playback queue" for this limitation as he did for Limitations 1.4. He has not.

200. First, Dr. Schmidt has not met his burden of establishing infringement for Limitation 1.7. Dr. Schmidt does not provide any independent analysis of the "remote playback queue" requirement for this limitation. Instead, just as with Limitation 1.4, Dr. Schmidt vaguely refers to a [redacted]." Schmidt Rpt., ¶298. As I explained in connection with Limitation 1.4, the term [redacted] does not identify any actual "playback queue," let alone show that the same alleged queue is being played back in Limitations 1.4 and Limitation 1.7. *See supra*, ¶¶159-163. Thus, I disagree that Dr. Schmidt has met his burden of establishing infringement for Limitation 1.7.

201. Second, I showed that for Limitation 1.4 Dr. Schmidt has at best identified a "local queue" on a User Device (the alleged "computing device"). *See supra*, ¶¶164-177. A User Device

playing a local queue cannot transmit an instruction to "take over responsibility for playback of the remote playback queue from the computing device."

202. Third, when a User Device is Casting to a playback device, the playback device plays back a [redacted] Thus, for this limitation Dr. Schmidt must show that a User Device is configured to play back [redacted] prior to Casting, and that after Casting the User Device transfers playback responsibility of the [redacted] to the playback device. Dr. Schmidt has not presented any evidence that a User Device plays back a [redacted] when not Casting. It does not. That is because the [redacted], it cannot be "the remote playback queue" a User Device is configured to play back in Limitation 1.4 which occurs prior to Casting.

203. Dr. Schmidt points to my prior opinions during the Patent Showdown regarding the YouTube application using a cloud queue when Casting. Schmidt Rpt., ¶249. But these opinions support my current opinion that Limitation 1.7 is not satisfied because [redacted]." In particular, in the Patent Showdown I explained that [redacted] '615 Rebuttal Report, ¶¶82, 176-177. I explained that [redacted] *Id.* Here, I agree that when Casting a playback device plays a "remote playback queue" ([redacted]. However, the '033 patent further requires that the "remote playback queue" played during Casting is the same "remote playback queue" played by a User Device when not Casting. That

requirement is not met here because [redacted].

204. Seemingly realizing [redacted], Dr. Schmidt states that the [redacted] Schmidt Rpt., ¶133. I disagree. First, as I have already mentioned, Dr. Schmidt has not identified any [redacted] *See supra*, ¶¶68, 70, 171. Thus [redacted]. Second, even if there were such a thing as a [redacted] as Dr. Schmidt alleges, [redacted] Thus, Dr. Schmidt has acknowledged that when Casting a playback device does not playback "the [alleged] remote playback queue."

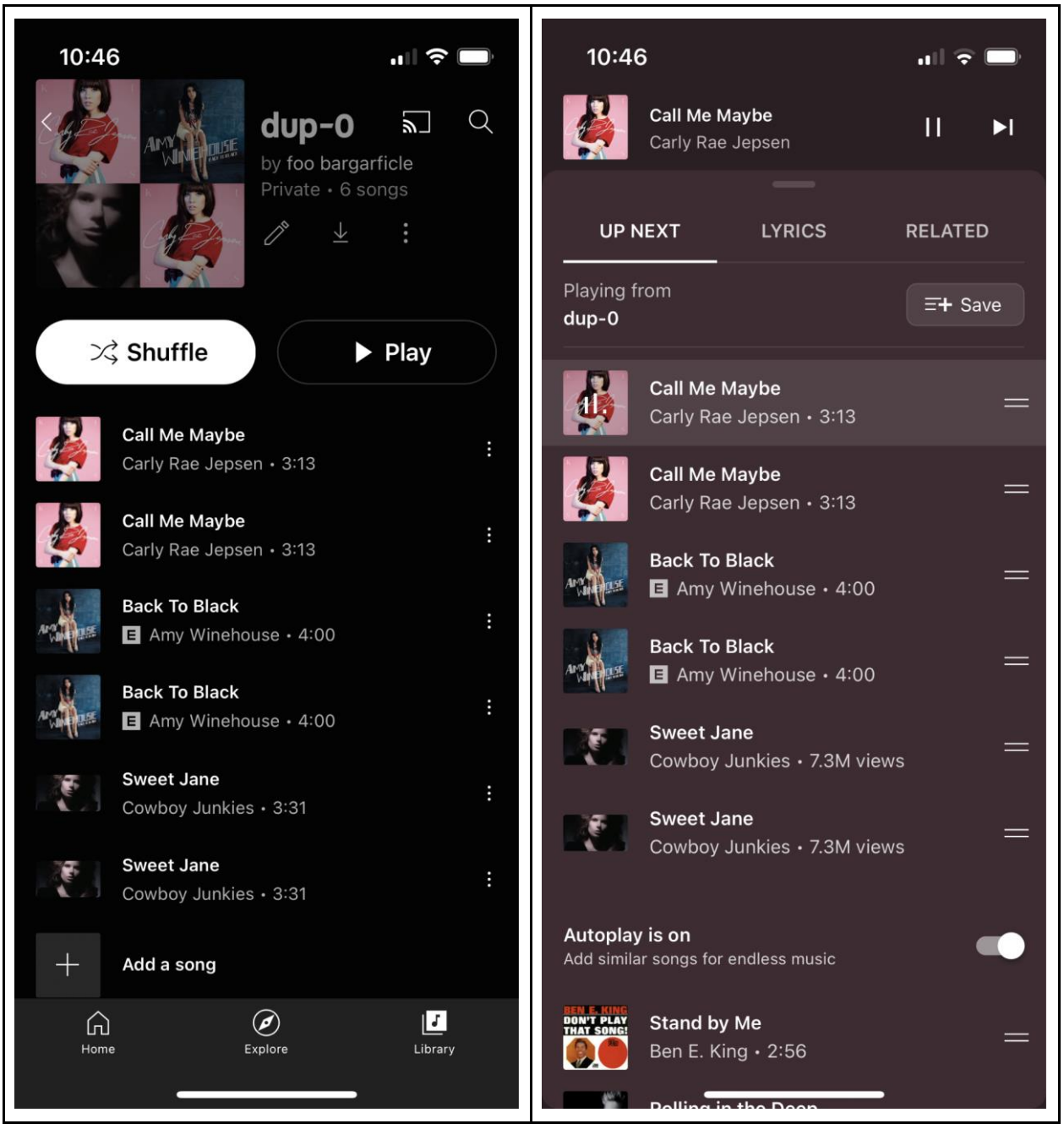
205. [redacted]" GOOG-SONOSWDTX-00040119 (YouTube MDx Overview) at -136. [redacted]

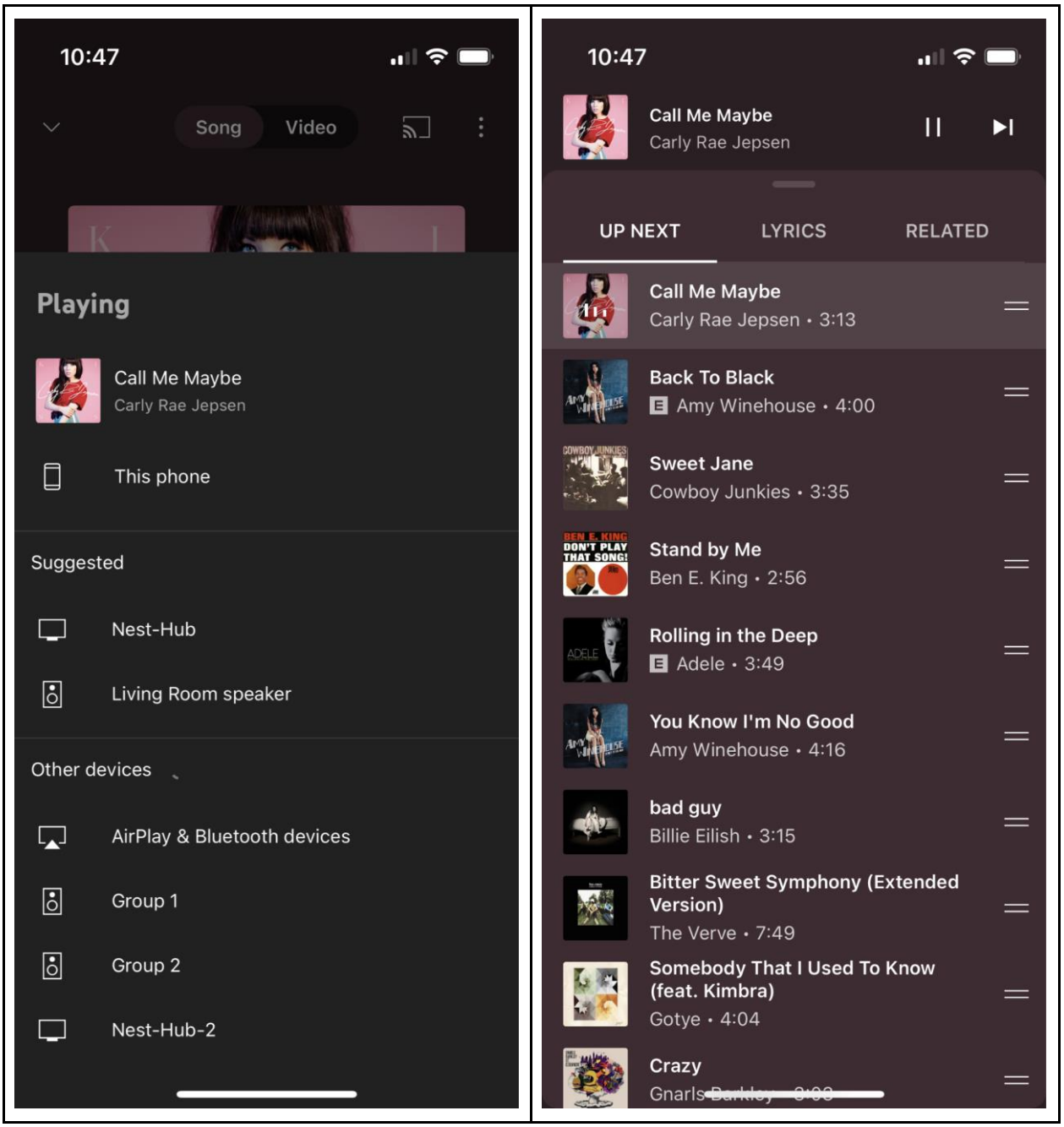
[redacted]

GOOG-SONOSWDTX-00042745 ([redacted]) at -746. [redacted] even under Dr. Schmidt's interpretation of the term.

206. My testing of the accused YouTube applications also supports my opinion that the [redacted]. [redacted] I confirmed this via my testing. For instance, I created a YouTube Music playlist containing duplicate songs (image on the top left) using my User

Device. While not Casting, I selected the "play" icon in order to add these items to the local queue of the YouTube Music application (image on the top right). As can be seen, the duplicate songs were added to the local queue of the YouTube Music application and began to playback on my User Device. I then tapped the Cast icon on the YouTube Music application and Cast playback to the "Living room speaker" (image on the bottom left). After Casting playback to the "Living room speaker," I observed that the duplicate media items had been eliminated from the queue (image on the bottom left). This sequence reflects the fact that [redacted]

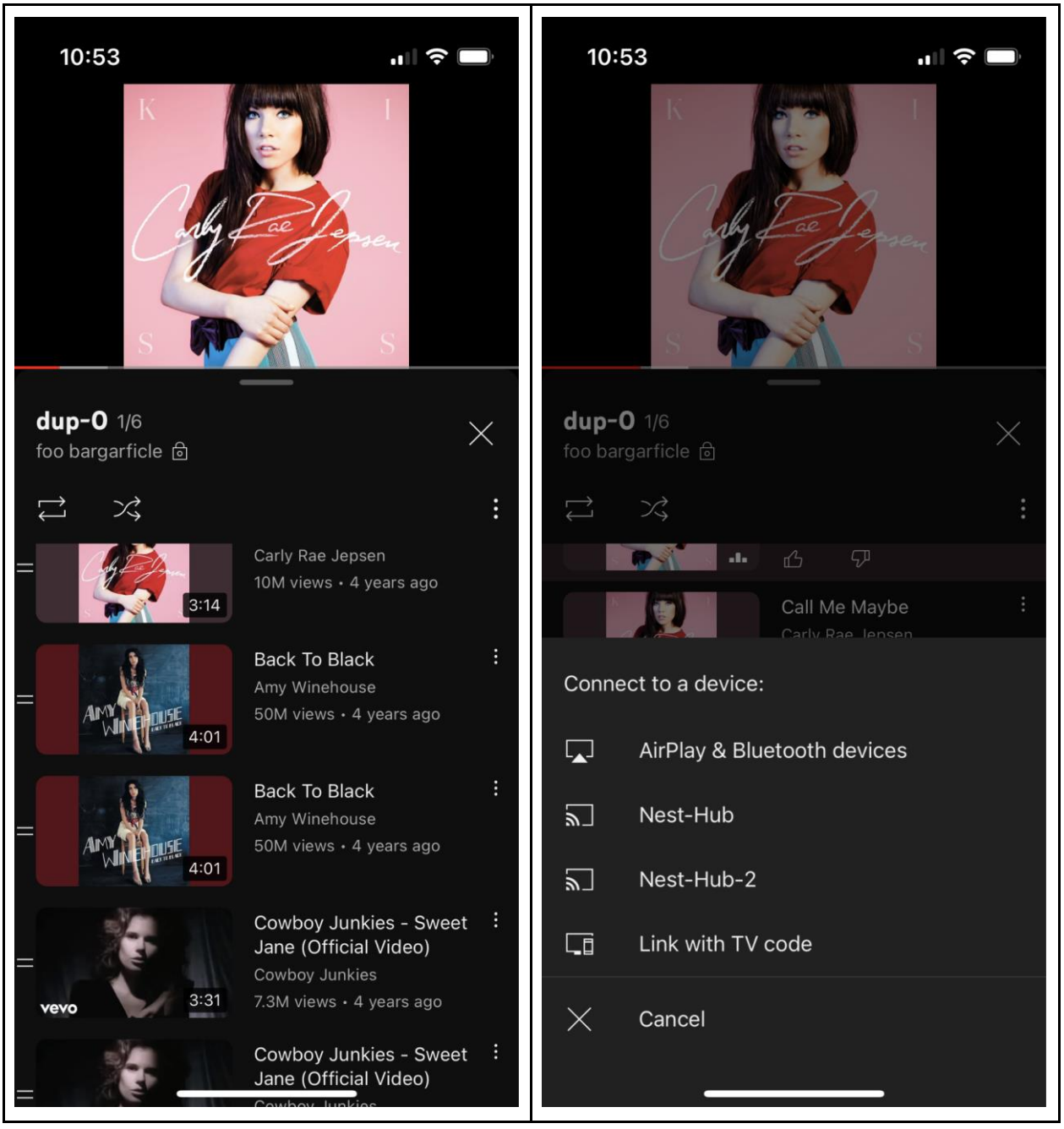

10:46
dup-0
by foo bargarficle
Private • 6 songs
Shuffle
Play
Call Me Maybe
Carly Rae Jepsen • 3:13
Call Me Maybe
Carly Rae Jepsen • 3:13
Back To Black
E Amy Winehouse • 4:00
Back To Black
E Amy Winehouse • 4:00
Sweet Jane
Cowboy Junkies • 3:31
Sweet Jane
Cowboy Junkies • 3:31
Add a song
Home
Explore
Library
10:46
Call Me Maybe
Carly Rae Jepsen
UP NEXT
LYRICS
RELATED
Playing from
dup-0
Save
Call Me Maybe
Carly Rae Jepsen • 3:13
Call Me Maybe
Carly Rae Jepsen • 3:13
Back To Black
E Amy Winehouse • 4:00
Back To Black
E Amy Winehouse • 4:00
Sweet Jane
Cowboy Junkies • 7.3M views
Sweet Jane
Cowboy Junkies • 7.3M views
Autoplay is on
Add similar songs for endless music
Stand by Me
Ben E. King • 2:56

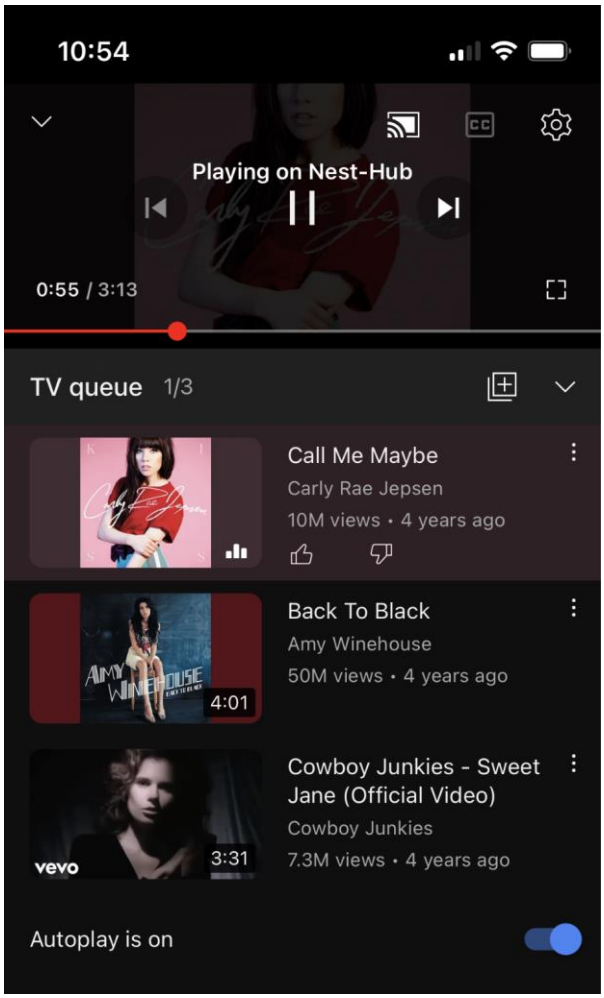


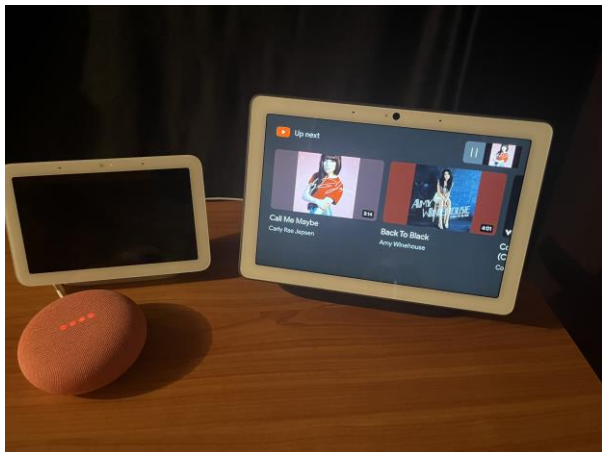
207. I also performed a similar test for the YouTube Main application. In particular, I began playback on my User Device of a queue containing duplicate media items (top left image). I then Cast playback to the Nest-Hub device on my network by tapping the Cast icon and selecting the Nest-Hub (top right image). Just as in the case of YouTube Music, after Casting playback to the Nest-Hub I observed that the duplicate media items had been eliminated from the queue

(images on the bottom left and right). Again, this sequence reflects the fact that [redacted]

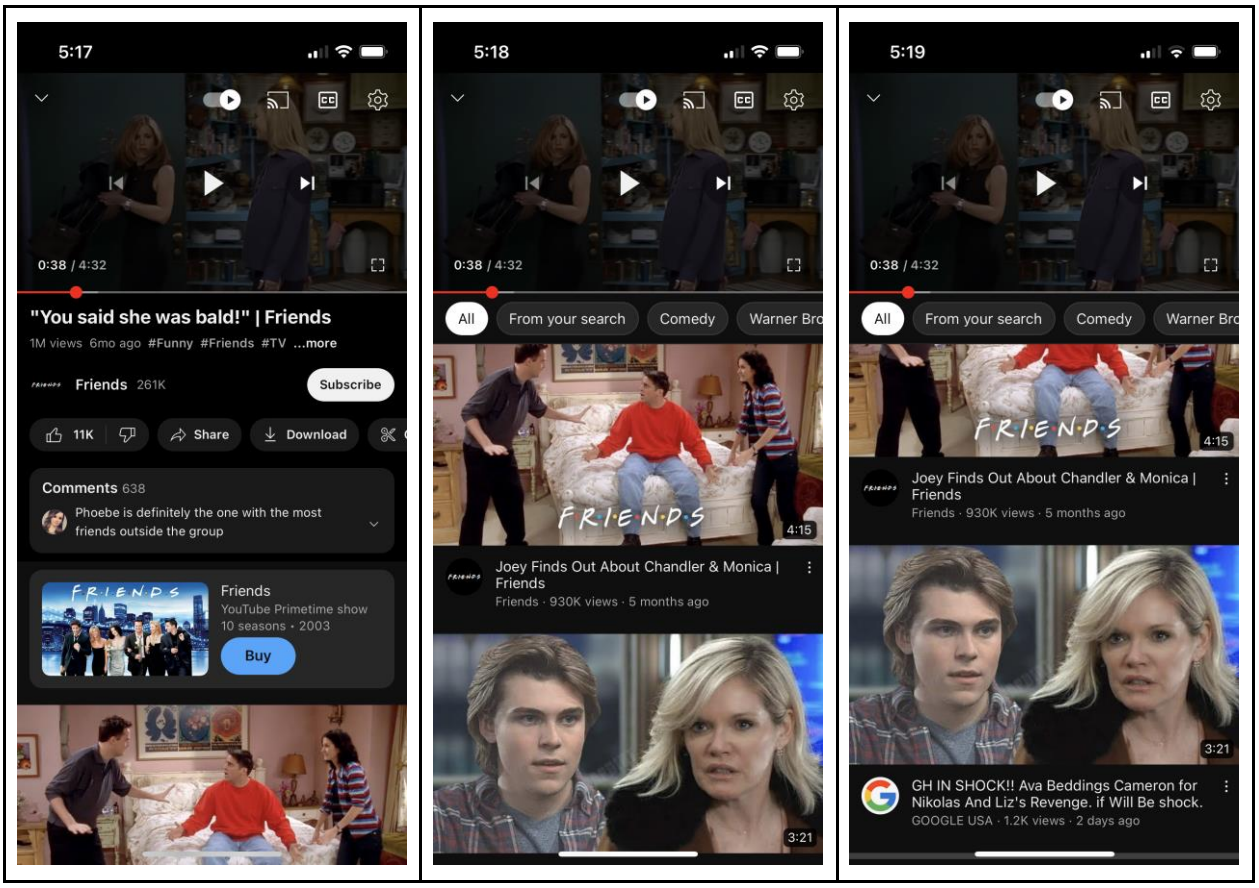
[redacted]

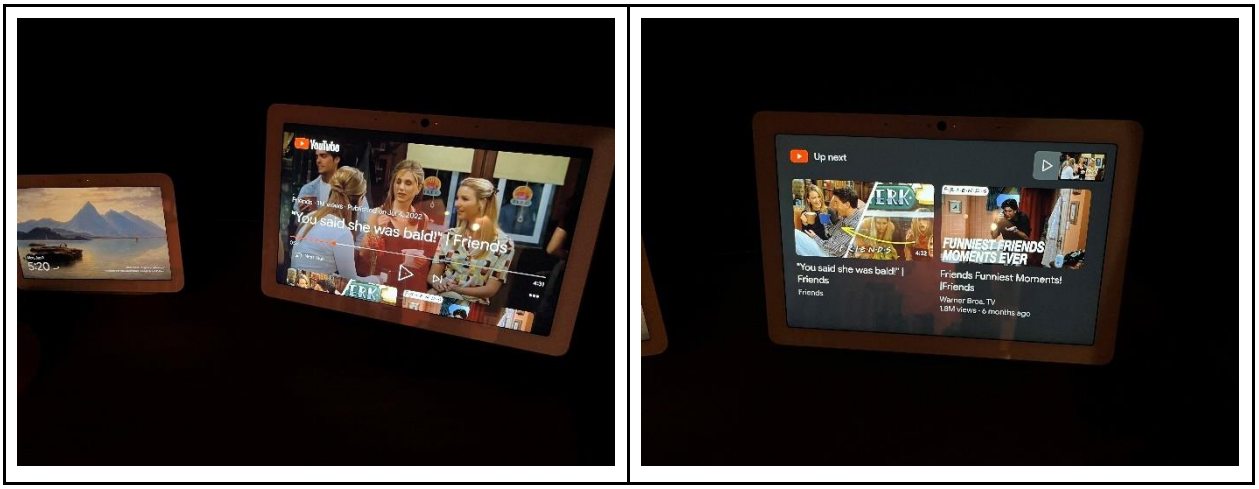






208. As another example, my testing of the YouTube Main application shows that new, different Autoplay items are generated when a user initiates a Cast session. For instance, I began playback on a single media item while not Casting and with Autoplay enabled, namely the video "You said she was bald! | Friends" (image on the left). After Casting playback to the Nest-Hub, I observed that the Autoplay videos changed. Thus, when a User Device Casts playback to a playback device using the YouTube Main application it [redacted]





209. As yet another example, my testing of the YouTube Kids application also shows that new, different Autoplay items are generated when a user initiates a Cast session. For instance, I showed above that after Casting playback from the YouTube Kids application to the Hub Device the list of service-recommended videos may change. *See supra*, ¶¶56-57. Thus, when a User

Device Casts playback to a playback device using the YouTube Kids application it does [redacted]

[redacted]

210. As yet a further example, my testing of the YouTube TV application shows that when a User Device Cast playback of an episode of a television show to a playback device, the playback device does not "take over responsibility for playback of [any alleged] remote playback queue." Rather, I showed above that when playback of an episode is Cast to a playback device, the playback device will stop playback following completion of the episode, as shown in the image below. *See also supra*, ¶¶58-59.

(i) "based on receiving the user input, transmitting an instruction for the at least one given playback device to take over responsibility for playback of the remote playback queue from the computing device, wherein the instruction configures the at least one given playback device to …"

211. Dr. Schmidt accuses two different messages- [redacted] and alleges that together they form the claimed instruction that configures the at least one given playback device to perform steps (i)-(iii) of this limitation. Schmidt Rpt., ¶298. I disagree with Dr. Schmidt that the [redacted] can be the claimed instruction.

212. **First**, the [redacted] alone cannot be the claimed instruction because it does not configure the at least one given playback device to perform steps (i)-(iii) of this limitation. In particular, after receiving only a [redacted] a receiver device cannot perform the steps Dr. Schmidt accuses of satisfying steps (i)-(iii), for instance sending or receiving a WatchNextResponse. Dr. Schmidt appear to agree as he describes the [redacted] Schmidt Rpt., ¶298.

213. **Second**, the [redacted] that Dr. Schmidt relies upon is not the claimed instruction. The claim language requires that the "computing device" send the instruction. In the accused YouTube applications [redacted] Thus, [redacted] sent by the YouTube application is not an instruction that configures the at least one given playback device to operate in accordance with step (i)-(iii) of this limitation.

214. Dr. Schmidt does not dispute that the [redacted], but opines that the claim language does not require the computing device send the claimed instruction "directly to" the "at least one given playback

device." Schmidt Rpt., ¶¶312-314. But the issue is not whether the instruction from the computing device to the playback device requires a direct or indirect transmission. Instead, the issue is that the instruction sent from the computing device must be the same instruction received by the playback device. This is mandated by the plain language of the claim, which identifies the instruction sent by the computing device as the same instruction that configures the playback device.

215. Dr. Schmidt cites to certain documents and source code that he opines shows that

[redacted] Schmidt Rpt., ¶¶299-300, 305, [redacted]

[redacted]

GOOG-SONOSWDTX-00041620. For instance, [redacted] a list of videoIds in the local queue of the YouTube music application, while the [redacted] Thus, [redacted]

216. **Third**, I understand that the parties dispute the plain meaning of the term "an instruction for the at least one given playback device to take over responsibility for playback of the remote playback queue from the computing device, wherein the instruction configures the at least one given playback device to (i) …, (ii) …, and (iii) …." I understand that Dr. Schmidt contends that this limitation does not require a singular instruction that configures a playback device to do each of the functions recited in steps (i)-(iii), and instead may encompass multiple

servers." *Id*, ¶329. But Dr. Schmidt's analysis is conclusory and he fails to explain how the videoId is used to retrieve and play back the next media item in a "remote playback queue."

222. In my opinion, an accused playback device does not use a videoId "to retrieve at least one media item in the remote playback queue from the cloud-based media service." In the accused YouTube system, each song or video includes an identifier (called a videoId) and the same song or video may exist on many [redacted] at a given time. A receiver device cannot use a videoId to retrieve a media item [redacted]. Indeed, if the receiver device sent the videoId to a [redacted]

223. Instead, a significantly more complex process occurs: in the accused YouTube systems [redacted] (and not a videoId) [redacted]

[redacted], the same videoId can [redacted].

224. My opinion is also supported by the disclosures in the '033 patent. Like the asserted claims, the '033 patent describes a simplistic two step process for retrieving media content. First, a playback device receives a URI (e.g., a UR) for a media item in a queue provided by a third-party application ("obtain data identifying a next one or more media items that are in the remote playback queue"). Then the playback device passes that URI to a cloud-based media service and "simply receive[s] content." '033 patent at 12:41-64; *see also id*. at 12:35-40 ("playback device 764, 774 can provide a song identifier, song name, playlist identifier, playlist name, genre, preference, and so on, and/or simply receive content from a connected system via the cloud."). Thus, the '033 patent contemplates a simplistic two-step process (obtain URI and use URI to fetch content), whereas the YouTube system is substantially more complex.

225. Because Dr. Schmidt has not shown that the alleged "instruction" [redacted] configures the playback device to communicate with the cloud-based computing system in order to obtain [redacted] for a next one or more media items that are in the remote playback queue, Dr. Schmidt has failed to show this limitation is satisfied.

(A) Hub Devices Do Not Satisfy Limitation 1.7

(i) Dr. Schmidt Has Not Identified A "Remote Playback Queue"

226. As I previously explained in connection with Limitation 1.4, the YouTube functionality that Sonos accuses on Hub Devices also does not play a playback queue provided by a third-party application. Thus, Dr. Schmidt cannot show infringement at least because the Hub Devices do not use a "remote playback queue."

(ii) "based on receiving the user input, transmitting an instruction for the at least one given playback device to take over responsibility for playback of the remote playback queue from the computing device, wherein the instruction configures the at least one given playback device to…"

227. Dr. Schmidt accuses two different messages—[redacted]—and alleges that together they form the claimed instruction that configures the at least one given playback device to perform steps (i)-(iii) of this limitation. Schmidt Rpt., ¶307. Initially, as I showed above this limitation requires a singular instruction that configures a playback device to do each of the functions recited in steps (i)-(iii). *See supra* ¶¶216-219. Because Dr. Schmidt relies upon multiple different instructions that he alleges collectively configure a playback device to perform steps (i)-(iii), he has not shown this limitation is satisfied.

228. Additionally, the claim language requires that the instruction be sent by the "computing device." Here, the [redacted] are sent by a Hub Device, which is the claimed "playback device," not the claimed "computing device," in the

scenario Dr. Schmidt accuses of infringement. Indeed, as I explained in connection with Limitation 1.4, for Hub Devices Dr. Schmidt accuses the scenario in which a mobile device (e.g., a smartphone) Casts playback to the Hub Device. *See supra* ¶189. The mobile device (which is the one transferring playback responsibility to the Hub Device) is the "computing device" in this scenario, and the Hub Device which is accepting playback responsibility from the mobile device is the "playback device." Thus, Dr. Schmidt was required to identify an instruction sent by the mobile device, which he has failed to do.

> *(iii) "wherein the instruction configures the at least one given playback device to (i) communicate with the cloud-based computing system in order to obtain data identifying a next one or more media items that are in the remote playback queue, (ii) use the obtained data to retrieve at least one media item in the remote playback queue from the cloud-based media service; and (iii) play back the retrieved at least one media item"*

229. For this portion of Limitation 1.7, Dr. Schmidt's accusations against the Hub Device are the same as those he provided for a User Device. Thus, in my opinion a Hub Device does not satisfy this portion of the limitation for the same reason I discussed above.

> **7. [1.8] detecting an indication that playback responsibility for the remote playback queue has been successfully transferred from the computing device to the at least one given playback device;**
>
> **8. [1.9] after detecting the indication, transitioning from i) the first mode in which the computing device is configured for playback of the remote playback queue to ii) a second mode in which the computing device is configured to control the at least one given playback device's playback of the remote playback queue and the computing device is no longer configured for playback of the remote playback queue.**

230. In my opinion, Dr. Schmidt has failed to show that Limitations 1.8 and 1.9 are satisfied at least because Dr. Schmidt has failed to show that the accused YouTube applications can operate in the claimed "first mode" or that the a playback device in the system can accept playback responsibility for a "remote playback queue." *See* Limitation 1.4.

detected. Thus, Dr. Schmidt has failed to show that the alleged computing devices transition from the first mode to the second mode *after* detecting a CONNECTED event.

(B) Hub Devices With The Accused YouTube Applications Do Not Transition To The Claimed Second Mode After Detecting The Claimed Indication

235. As I showed above in connection with Limitation 1.4, Dr. Schmidt contends that a Hub Device is a "computing device" configured in the "first mode" where a User Device is Casting playback to a Hub Display. I showed why this is incorrect. *See supra*, ¶¶187-193. Even setting this issue aside, Dr. Schmidt has not shown a Hub Device satisfies Limitations 1.8 and 1.9.

236. For Limitations 1.8, Dr. Schmidt appears to allege that if a user selects another destination device for playback (e.g., a second Hub Device), the first Hub Display (that was previously playing the casted content) [redacted] Schmidt Rpt., ¶¶349, 356. Dr. Schmidt appears to accuse the response to the [redacted] of being the claimed "indication."

237. For Limitation 1.9, the claim language sets forth a sequence by which the Hub Device must transition from the "first mode" in which it is "configured for playback" to "a second mode" where it is "no longer configured for playback" only after it detects the claimed "indication." Dr. Schmidt fails to show that the accused Hub Devices perform the claim requirements in the correct sequence.

238. In his analysis of Limitation 1.9, Dr. Schmidt merely states that "[t]he following exemplary source code demonstrates that a Hub Sender has the capability to transition from local playback mode to the remote mode" and cites to the following passages of code:

configured for playback of the remote playback queue" *after* (as opposed to prior to or simultaneously with) detecting the alleged indication.

239. The testing I performed also illustrates that the Hub Device is no longer in the alleged "first mode" at the time the alleged indication is detected.

240. For instance, I showed in connection with Limitation 1.5 [redacted] receiving the alleged indication that Dr. Schmidt points to ([redacted]), Dr. Schmidt cannot show the Hub Device is no longer configured for playback of the alleged remote playback queue "after detecting the indication," as required by the claims.

241. I also showed above that when a user Casts playback to a second Hub Device [redacted], unless a user chooses to stop playback on the Hub Device. *See supra*, ¶¶97-102. Thus, a Hub Device with YouTube Music also does not infringe because after detecting the alleged indication the Hub Device does not transition to "a second mode in which" it is no longer configured for playback of the alleged remote playback queue."

B. Claim 2

1. "The computing device of claim 1, wherein the instruction comprises an instruction for the cloud-based computing system associated with the media service to provide the data identifying the next one or more media items to the given playback device for use in retrieving the at least one media item from the cloud-based computing system associated with the cloud-based media service."

242. Dr. Schmidt does not accuse Hub Devices of infringing Claim 2. Schmidt Rpt., ¶120. I agree with Dr. Schmidt that a Hub device does not infringe Claim 2.

243. Dr. Schmidt accuses only User Devices provisioned with the accused YouTube applications of infringing Claim 2. I understand that Claim 2 depends on Claim 1. I further understand that a dependent claim incorporates all of the limitations from the independent claim. Thus, for all of the reasons set forth above in my discussion of Claim 1, it is my opinion that Dr. Schmidt has failed to demonstrate that this portion of the claim is satisfied.

244. Dr. Schmidt has also failed to show Claim 2 is satisfied for additional reasons. For Claim 1, Dr. Schmidt identified [redacted] as "the instruction." For the additional limitation of Claim 2, Dr. Schmidt further opines that the [redacted] also comprises "an instruction for the cloud-based computing system associated with the media service to provide the data identifying the next one or more media items to the given playback device for use in retrieving the at least one media item from the cloud-based computing system associated with the cloud-based media service." Schmidt Rpt., ¶¶380-381. In my opinion the [redacted] that Dr. Schmidt points to does not satisfy Claim 2.

245. The [redacted] sent from a sender device is not "an instruction for the cloud-based computing system associated with the media service to provide data identifying the next one or more media items to the given playback device." In particular, [redacted]

[redacted] a videoId which identifies the *current* media item that should be played back on the playback device-it does not include a videoId for the "next one or more media items" that should be played. And, of course, because the videoId sent [redacted] does not identify the "next one or more media items," it also is not "for use in retrieving" the next one or more media items.

246. Dr. Schmidt appears to agree that [redacted] Instead, Dr. Schmidt opines that the [redacted] and receive in response a WatchNext response that contains "data identifying the next one or more media items." Schmidt Rpt., ¶¶380-384. I disagree. As I explained in connection with Limitation 1.7, [redacted].

247. Assuming that [redacted] (it cannot), this limitation is still not met. The plain language of the claim requires that "the instruction" (which Dr. Schmidt identifies [redacted] "comprises an instruction for the cloud-based computing system associated with the media service to provide the data identifying the next one or more media items to the given playback device." Dr. Schmidt opines that the [redacted] satisfies the additional limitation of Claim 2 because it "indirectly" [redacted]

capable of video playback is needed. In addition, the accused YouTube Main functionality on a Hub Device also does not permit Casting to a group of devices.

XIV. RESPONSE TO DR. SCHMIDT'S NON-INFRINGING ALTERNATIVE OPINIONS

A. Non-Infringing Alternative - Continue Playback On The Computing Device After Transferring Playback

278. All of the asserted claims require "transitioning from i) the first mode in which the computing device is configured for playback of the remote playback queue to ii) a second mode in which the computing device is configured to control the at least one given playback device's playback of the remote playback queue and the computing device is no longer configured for playback of the remote playback queue." As I showed above, the accused YouTube applications do not infringe this limitation. Nevertheless, even if Dr. Schmidt's infringement opinions were accepted, as I showed in my opening report, a non-infringing alternative that was available to Google at the time the '033 patent issued was a "set and forget" operation. The set and forget operation would modify the accused YouTube applications such that the accused YouTube applications would not satisfy the portion of this limitation that requires transitioning to a second mode in which "the computing device is no longer configured for playback of the remote playback queue," even accepting Dr. Schmidt's interpretation of this claim limitation.

279. Initially, Dr. Schmidt does not dispute that set and forget operation would not infringe the '033 patent. I agree with Dr. Schmidt that this alternative is non-infringing.

280. Dr. Schmidt wrongly suggests that this non-infringing alternative would apply only to the YouTube Main app. Schmidt Rpt., ¶514. More specifically, Dr. Schmidt points to a statement from Google that "playback can be continued with only the video alone (and the audio muted)" and states that this would "not account for YouTube Music's music-only playback." Schmidt Rpt., ¶514. Dr. Schmidt's position appears to be inconsistent with his infringement theory

for Limitations 1.4 and Limitation 1.9. For Limitations 1.4 and 1.9, Dr. Schmidt opines that an accused YouTube application is still "configured for playback of the remote playback queue" even when it is paused and not playing back the media. *See, e.g., supra* ¶¶232-234 (Limitations 1.8-1.9). While I do not agree with Dr. Schmidt, applying his interpretation would mean that music-only playback of the remote playback queue would be non-infringing (even where the audio was muted). Moreover, the alternative could be implemented so that all of the YouTube applications default to pausing playback of the media (whether audio or video) on the computing device upon transfer. In either implementation, each of the accused YouTube applications would not infringe under Dr. Schmidt's interpretation because they would not satisfy the step of transitioning to a second mode in which "the computing device is no longer configured for playback of the remote playback queue." Even setting aside Dr. Schmidt's interpretation, this non-infringing alternative could also be implemented so that the video and audio would continue to playback on the mobile device after transferring playback, giving the user the option to continue the playback on the mobile device or pause it at a later time. Thus, this non-infringing alternative was available to Google as of the date the '033 patent issued for each of the YouTube Main, YouTube Music, YouTube Kids, and YouTube TV applications.

281. Dr. Schmidt also opines that the non-infringing alternative would not have been commercially acceptable for YouTube Music's music-only playback because users allegedly do not want audio being output from their phone and a Cast device at the same time. Schmidt Rpt., ¶520. But Dr. Schmidt has not shown that his statement applies to all users. Users may have different preferences, and, as I just explained, this alternative would provide users the option to continue playback on the phone or to not continue playback on the phone, according to their preference. Indeed, the alternative could be implemented such that audio is muted or paused on

the user's phone upon transfer. Users would then have the option to resume audio output on their phone or to not resume audio output on their phone. Alternatively, the default behavior upon transferring playback could be to continue playback, and users would then have the option to pause playback if they so desire. Thus, this option would provide users with additional features and functionality.

282. Dr. Schmidt further asserts that this alternative is not technically feasible. Schmidt Rpt., ¶¶516-518. I disagree.

283. First, Dr. Schmidt alleges that YouTube Music has "streaming limitations that prevent streaming media from more than one device at a time." Schmidt Rpt., ¶517. Initially, Dr. Schmidt's assertion is limited to the YouTube Music application, and Dr. Schmidt does not argue that any streaming limitations would prevent Google from implementing this alternative for the other accused YouTube applications. Moreover, I disagree that streaming limitations would prevent Google from implementing this alternative for the YouTube Music application. As I explained earlier, for purposes of infringement Dr. Schmidt has opined that the limitation requiring that the alleged computing device "is no longer configured for playback of the [alleged] remote playback queue" is not satisfied even where a computing device's playback has been stopped. *See* ¶¶232-234. Put another way, Dr. Schmidt contends that an alleged computing device remains configured for playback of the alleged remote playback queue when it is paused and able to resume playback of the alleged remote playback queue at a later time. *Id*. Accordingly, even if, as Dr. Schmidt asserts, streaming limitations restrict playback to a single device at a given time, this alternative would not be impacted because the alleged computing device could simply pause its playback upon transferring playback to the Cast device such that only one device would play back at a given time. Further, YouTube Music offers a free subscription whereby users are able to play

back media on multiple devices, as well as premium subscriptions that permit multiple devices to playback media at the same time. Thus, if a user chooses to resume playback on the computing device during a Cast session, the alleged computing device could play back media. Users would thus be provided with additional functionality in this alternative because they could play back media on their Cast receiver device and also have the option to play back media on the alleged computing device.

284. Second, Dr. Schmidt alleges that "assuming Google could have resolved the aforementioned streaming limitations, it would have been hard to enable simultaneous playback of a given media item at both the Sender and Receiver without introducing new technical challenges." Schmidt Rpt., ¶518. But Dr. Schmidt fails to explain why simultaneous playback would be necessary to implement this non-infringing alternative. As already mentioned, this alternative could simply pause the playback on the alleged computing device. A user would then have the option to un-pause the playback on the alleged computing device, as the user desires. For instance, a user may be Casting a song or video to a receiver device in their living room, and then move to his or her bedroom. The user could then play back media on the alleged computing device, while other family members continue to watch the media on their living room device. In short, this alternative provides users with additional features that they can choose to utilize according to their preferences.

285. Third, Dr. Schmidt also opines that this alternative "would have presented technical challenges associated with how to control the Receiver's playback of the given media item since the Sender's transport control would ostensibly control its own playback of the given media item." Schmidt Rpt., ¶519. I disagree. A user could control the receiver's playback of the given media item using the transport controls in the Google Home application, which is the application the user

already uses to set-up and manage receiver devices that support Casting. In fact, this alternative could be implemented such that transferring playback to a receiver device automatically opens up the Google Home application and displays the transport controls for controlling the receiver's playback of the given media item, including transport controls for pausing, forwarding, and rewinding media playback, and skipping to the next or previous media items in the alleged remote playback queue. If the user chooses to utilize the additional functionality provided by this alternative (namely, the ability to resume playback on the alleged playback device), the user could simply switch back to the YouTube application and use the transport controls in the YouTube application. Further, I note that the ability to control multiple devices in this manner is already deployed within the Google Home application.

286. Fourth, Dr. Schmidt asserts that this alternative would "drain[] a Sender's battery." Schmidt Rpt., ¶520. Dr. Schmidt's assertion is conclusory and he provides no explanation for why this alternative would result in additional battery drain. Dr. Schmidt has not demonstrated that this alleged battery drain (if any) would be of material concern to users. Indeed, the documents Dr. Schmidt cites for his assertion merely state that a user can reduce the drain on their phone 's battery by playing back media on the receiver device (e.g., a Chromecast) instead of the user's phone. Schdmit Rpt., ¶471 (citing documents). But in the non-infringing alternative proposed here, playback on the phone can be paused such that the user will not incur additional battery drain. The primary difference is the user is provided the option to use additional battery power to also playback media on their phone, if they so desire.

B. Non-Infringing Alternative - Cloud Service, Not Playback Device, Communicates With Cloud Servers To Identify the Next One Or More Media Items In The Remote Playback Queue

287. All of the asserted claims an "instruction configures the at least one given playback device to (i) communicate with the cloud-based computing system in order to obtain data

identifying a next one or more media items that are in the remote playback queue, (ii) use the obtained data to retrieve at least one media item in the remote playback queue from the cloud-based media service; and (iii) play back the retrieved at least one media item." Dr. Schmidt opines that after receiving a [redacted] (the alleged "instruction") a receiver device (the alleged "playback device") is "configured" to "obtain data identifying a next one or more media items that are in the remote playback queue" [redacted] and that the receiver device uses the obtained data to "retrieve at least one media item in the remote playback queue from the cloud-based media service" by [redacted]. Schmidt Rpt., ¶¶162-166, 323-324. For the reasons I discussed above, I disagree with Dr. Schmidt that the accused YouTube system satisfies this limitation of the asserted claims.

288. Even if Dr. Schmidt's infringement opinions were accepted, as I showed in my opening report, a non-infringing alternative that was available to Google at the time the '033 patent issued was for the receiver device *not* to [redacted]. Opening '033 Rpt., ¶¶757-762. Instead, the receiver device would [redacted] *Id*. [redacted] *Id*.. Thus, in this alternative the receiver device does not "(i) communicate with the cloud-based computing system in order to obtain data identifying a next one or more media items that are in the remote playback queue," and does not "(ii) use the obtained data to retrieve at least one media item in the remote playback queue from the cloud-based media service," even under Dr. Schmidt's interpretation of the claims.

289. In response, Dr. Schmidt begins by stating that "Google has not provided sufficient details as to the contents of [redacted] and that he therefore "do[es] not have enough information to fully evaluate whether this alleged alternative would have been non-infringing, available, technically feasible, or commercially acceptable." Schmidt Rpt., ¶498. But Dr. Schmidt does not identify the additional details he requires in order to "fully evaluate" this non-infringing alternative. For example, [redacted] videoId and/or p[redacted]. As another example, in [redacted] I discuss below [redacted]

[redacted]

See GOOG-SONOSNDCA-00070863 ([redacted] at -913 ("[redacted]

[redacted]

290. In support of my opinion that this non-infringing alternative was technically feasible, I showed in my Opening '033 Report that Google had implemented a [redacted]. Opening '033 Report, ¶760. In response, Dr. Schmidt states that he has seen evidence that "undermines Google's assertion that [redacted]" Schmidt Rpt., ¶499.

291. More specifically, Dr. Schmidt points to testimony from Vincent Mo, who he refers to as "Google's 30(b)(6) witness for YouTube," and states that Mr. Mo was [redacted] *Id*. Initially, I understand that Mr. Mo was Google's 30(b)(6) witness for only certain topics in Sonos's 30(b)(6) notice that related to the functionality that is accused of infringement in this case—I understand he was not designated on any topics directed at non-infringing alternatives for YouTube. *See* Mo Tr. at 17:2-6 ("We have designated Mr. Mo on 3 Topic Number 1, subparts romanettes 2 through 7 as those related to the accused casting functionality in YouTube, YouTube Music, YouTube Kids and YouTube TV"); Mo Tr., Ex. 2 (Sonos's 30(b)(6) Notice). Moreover, in the testimony Dr. Schmidt cites [redacted]. Mo Tr. at 223:20-22 ("[redacted] Unlike the simplistic system of the '033 patent, "[redacted]." Mo Tr. at 224:4-14. [redacted]. Mo Tr. at 224:4-14, 140:14-18. Thus, it is not surprising that not every engineer is aware of every system.

videoIds to [redacted] GOOG-SONOSWDTX-00052992 ([redacted]) at -3000 ([redacted]). As a result, the scope of this non-infringing alternative could be narrowly targeted to playlistIds of type RQ (not all playlists) and still avoid infringement.

294. Dr. Schmidt goes on to say that "it is unclear to me that this alleged alternative would not still literally infringe or at least infringe under the Doctrine of Equivalents (DoE)." Schmidt Rpt., ¶501. Initially, Dr. Schmidt fails to provide any opinion under DoE. As to literal infringement, Dr. Schmidt provides only a conclusory infringement analysis. I have made my best effort to respond to Dr. Schmidt's conclusory assertion, but to the extent Dr. Schmidt is permitted to provide additional details or explanation I reserve the right to respond.

295. Dr. Schmidt provides a conclusory assertion that a receiver device with just the [redacted] would still infringe by communicating [redacted] to "obtain data ([redacted]) identifying a next one or more media items that are in the remote playback queue and the Receiver would still use the obtained data ([redacted]) to retrieve at least one media item in the remote playback queue ([redacted]')." Schmidt Rpt., ¶501. Dr. Schmidt provides no further analysis supporting his assertion that [redacted] would infringe the asserted claims. Dr. Schmidt's opinion is flawed and I disagree that a playback device that implements [redacted] would infringe.

296. A client device (e.g., a receiver device) implementing [redacted] would send a [redacted] or a media item (e.g., a song or video) each time it starts playback of the next media item. The Onesie response received by the client is shown below. As can be seen, [redacted]

[redacted]

[redacted]:

[redacted]

GOOG-SONOSNDCA-00073494. The [redacted] are *not* "data identifying a next one or more media items that are in the [alleged] remote playback queue" or data that a receiver device uses to "retrieve at least one media item in the [alleged] remote playback queue." [redacted] do not correspond to a media item. Rather, as Dr. Schmidt concedes, [redacted] for a media item, namely [redacted]. *See* Schmidt Rpt., ¶501. In the accused YouTube system the "media items" selected for playback are complete songs or videos, as Dr. Schmidt himself acknowledges. *See* Schmidt Rpt., ¶501 (stating that YouTube allows "a user to select a single media item (e.g., a song, video, or on-demand TV program) for playback"). Thus, I disagree with Dr. Schmidt that t[redacted] can be used to identify or retrieve a media item.

297. Further, although Dr. Schmidt accuses a videoId of being "data identifying a next one or more media items that are in the remote playback queue" and data used to "retrieve at least one media item in the remote playback queue" in his infringement analysis, Dr. Schmidt does not provide any opinion that the [redacted] would infringe based on a videoId. *See* Schmidt Rpt., ¶501. A videoId is not data that is used to "retrieve at least one media item in" a queue. At best, a videoId is used to retrieve the first several seconds of media content. *See also, e.g.*, GOOG-SONOSNDCA-00073494, 95 ("[redacted]."). A person of skill in the art would understand that retrieving the first several seconds of a media item is not the same as retrieving the media item. Indeed, in the YouTube system a "videoId" is an identifier for a complete song or video. It is not an identifier for the beginning portion of a song or video. Thus, to the extent Dr. Schmidt alleges a videoId is the claimed "data identifying" a "media item," that videoId must be used to retrieve the complete media item identified by the videoId, not just a few seconds of the media item.

298. While [redacted] does not infringe, I also opined that Google could extend [redacted] Opening '033 Report, ¶759. In this regard, Google is [redacted] Dr. Schmidt alleges that this non-infringing alternative would still infringe because, according to Dr. Schmidt, a receiver device would use "WatchNextResponse data" to

retrieve a media item. Schmidt Rpt., ¶503. But Dr. Schmidt misunderstands this alternative. Google's documents indicate [redacted] *See* GOOG-SONOSNDCA-00070863 ([redacted] at -913 [redacted] A receiver device would not use a videoId ("WatchNextResponse data") to retrieve the content for the media items in the receiver device.

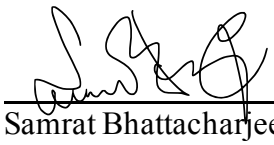
299. Dr. Schmidt also argues that this non-infringing alternative would not be technically feasible because Google's "[redacted]." Schmidt Rpt., ¶507 (citing GOOG-SONOS-NDCA-00086299). But the document Dr. Schmidt cites to [redacted] GOOG-SONOS-NDCA-00086299 at -307. The fact that [redacted] does not show that the feature was not "technically feasible." Rather, it shows good engineering practice.

300. Dr. Schmidt also opines that [redacted] Schmidt Rpt., ¶507. But I understand that Google has [redacted].[21] *See also* GOOG-SONOSNDCA-00116349; GOOG-SONOSNDCA-00116350. [redacted] confirms that [redacted] is technically feasible.

[21] Conversation with Pawel Jurzyk

I, Samrat Bhattacharjee, declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

DATED: January 13, 2023



Samrat Bhattacharjee